



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,535	07/29/2003	Hardayal Singh Gill	HITG.054A	6066
7590 01/06/2006 Chambliss, Bahner & Stophel, P.C. 1000 Tallan Building Two Union Square Chattanooga, TN 37402			EXAMINER WATKO, JULIE ANNE	
			ART UNIT 2653	PAPER NUMBER

DATE MAILED: 01/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/629,535

**Applicant(s)**

GILL ET AL.

**Examiner**

Julie Anne Watko

**Art Unit**

2653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 1-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Drawings*

1. The drawings were received on December 19, 2005. These drawings are acceptable.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 9-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Independent claim 9 recites the limitation “the top surface of the first and second end of the first self-pinned layer extending under the hard bias layers at the first and second ends and contacting the hard bias layer along the top surface of the first and second ends of the first self-pinned layer” in the last 4 lines. This limitation is misdescriptive of the specification. It is unclear in what sense a top surface of the ends of the first self-pinned layer are “contacting” the hard bias layers when seed layers contact said surface instead (see 692 and 694 in Fig. 6c).

Independent claims 17, 25 and 26 contain similar recitations and are similarly indefinite.

Claims 10 and 18 recite the limitation “spacer layer formed over the first self-pinned layer and a first and second seed layer disposed between the first and second hard bias layer and the spacer layer.” It is unclear in what sense a top surface of the first self-pinned layer are “contacting” the hard bias layers when three layers exist between each top surface and its corresponding hard bias layer.

Other claims are indefinite by virtue of their dependency from indefinite claims.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. It is noted by the Examiner that claim 26 was inadvertently omitted from prior office actions. The Examiner apologizes for this omission. Claim 26 should have been treated with claim 17.

6. Claims 9, 17, 25 and 26 are rejected under 35 U.S.C. 102(e) as being anticipated, to the extent understood, by Gill (US PAP No. 2005/0007707 A1).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

Due to similar recitations, similar independent claims are treated together.

As recited in claims 17 and 26, to the extent understood, Gill shows a magnetic storage system (see Fig. 1), comprising: a moveable magnetic storage medium 112 for storing data thereon, an actuator 127 positionable relative to the moveable magnetic storage medium, and a

Art Unit: 2653

magnetoresistive sensor 300, coupled to the actuator, for reading data from the magnetic recording medium when position to a desired location by the actuator.

As recited in claims 9, 17, 25 and 26, to the extent understood, Gill shows a self-pinned abutted junction magnetic read sensor 300 (see Fig. 3), comprising: a first self-pinned layer 308 having a first magnetic orientation (see arrow 303), the first self-pinned layer having a first end, a second end and central portion, the first and second end of the first self-pinned layer (inherently) having a side surface, top surface (upper surface in Fig. 3) and bottom surface (lower surface in Fig. 3); a second self-pinned layer 310 formed over only the central portion of the first self-pinned layer, an interlayer 312 being disposed between the first and second self-pinned layers; a free layer 304 formed in a central region over the second self-pinned layer; and a first and second hard bias layers (314 and 316) formed over the top surface of the first and second ends of the first self-pinned layer respectively, the first and second hard bias layer abutting the free layer 304, the top surface of the first and second end of the first self-pinned layer extending under the hard bias layers at the first and second ends and contacting (to the extent understood) the hard bias layer along the top surface of the first and second ends of the first self-pinned layer.

7. Regarding claims 10-16 and 18-24: In the absence of a reasonably definite interpretation of a claim, it is improper to rely on speculative assumptions regarding the meaning of a claim and then base a rejection on these assumptions (*In re Steele*, 305 F.2d 859, 134 USPQ 292 (CCPA 1962)). See MPEP 2143.03.

***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

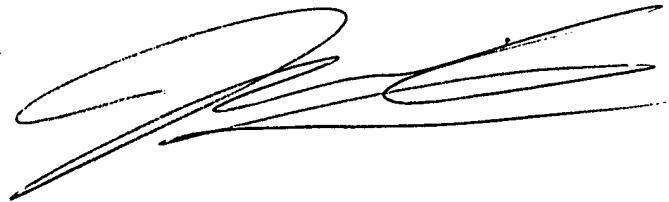
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie Anne Watko whose telephone number is (571) 272-7597. The examiner can normally be reached on Monday-Thursday until 4:45PM, and Friday until 6PM.

Art Unit: 2653

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R. Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Julie Anne Watko  
Primary Examiner  
Art Unit 2653

January 4, 2006  
JAW

A handwritten signature in black ink, appearing to read 'Julie Anne Watko', with a stylized, flowing script.